

Lesson 3.5 Extra Practice Answers

1. a) $x^2 + x + 5$ with remainder 7
 b) $3x^2 - 8x + 28$ with remainder -89
 c) $2x^3 - 4x^2 + 3x - 6$ with remainder 15
 d) $-3x^3 + 16x^2 - 64x + 256$ with remainder -1025
 e) $x^4 + 3x^3 + 12x^2 + 31x + 97$ with remainder 299
 f) $2x^4 - 2x^3 + x^2 - 9x + 29$ with remainder -91

2. a) $x^2 - 2x - 6$ with remainder -22
 b) $-2x^2 + 2x + 3$ with remainder -9
 c) $-x^3 + 4x^2 - 9x + 36$ with remainder -145
 d) $4x^3 + 11x^2 + 46x + 181$ with remainder 730
 e) $x^4 - x^3 + x^2 - x + 1$ with remainder -2
 f) $-5x^4 - 2x^3 - 6x^2 - 2x - 7$ with remainder 1

3. a) $x^3 - 6x + 45$
 b) $-9x^4 + 3x^3 - 15x^2 - 19x + 8$
 c) $8x^4 - 18x^3 + x^2 + 27x - 16$
 d) $x^6 - 30x^4 + 48x^3 - 48x^2 + 113x - 79$

4. a) $r = -18$
 b) $r = 29$
 c) $r = x + 1$
 d) $r = 2$

5. a) $x + 2$
 b) $x - 3$
 c) $x + 4$
 d) $x - 1$

6. a) no
 b) yes
 c) no
 d) yes
 e) no
 f) yes

7. $(x - 2)$ cm

8. a) $p = 3$
 b) $k = -x + 1$

9. a) $f(x) = (x + 2)(x^2 - 7x + 12) - 1$
 b) $f(x) = (x + 2)(x - 3)(x - 4) - 1$

